Trends in the Reasons for Restatements

THESIS

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II. Abstract

In 2014, more than 500 companies or over 3% of all public companies filed a Form 8-K Item 4.02 disclosure indicating that a previously issued financial statement should not be relied upon due to a material error. These material errors mislead investors, creditors, and other stakeholders. Therefore, such a company is subsequently required to issue corrected financial statements through a Form 10-K/A disclosure. By understanding the underlying errors that drive companies to restate, accountants can take actions to minimize the quantity of restatements. Previous research has examined the relationship between the passage of time and the number of restatements. This study adds to the discussion by describing reasons that companies restate and the associated trends. Audit Analytics database provided by Wharton Research Data Services was used to analyze all Item 4.02 disclosures from 2004 to 2014. These restatements were classified by whether clerical error, fraud, accounting error, or another type of error led the company to restate their financials. The results indicate that the proportion of restatements explained by clerical errors has fallen from over 14% in 2008 to about 1% in 2014. The proportion of restatements explained by fraud has fallen from over 3% in 2004 to under 1% in 2014. As a result, the proportion of restatements explained by accounting errors has increased from about 86% in 2008 to over 98% in 2014. These results are consistent with the presumption that increased regulation, technology, and education may reduce fraud and clerical error over time. The total number of restatements has more than doubled since 2008 despite evident decreases in the proportion of restatements explained by clerical error and fraud. As the proportion of restatements explained by accounting errors predominates, actions must be taken to reduce accounting error and consequently diminish the total number of restatements.

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IV. Introduction

Background

A financial restatement takes place when an organization must restate financial information because they have found a material inaccuracy in previous financial statements. While material errors in public financial information is often found internally by a company accountant or company auditor, material errors can also be discovered by the Securities and Exchange Commission, investors, or other stakeholders. When a material error is discovered, regulation dictates that the public company must correct the error and inform external information users of the correction. External information users rely upon incorrect financial information from the time that the original incorrect financial statements are published until the company publicly restates their financial information.

When a material error is initially discovered, the company files an Item 4.02 Non-Reliance Disclosure via a Form 8-K. This disclosure tells investors that a material misstatement has been found, that the company is working on correcting the misstatement, and that the financial statements should not be relied upon until the financial statements are restated. This Form 8-K release often contains information regarding the nature of the restatement. The Form 8-K release often does not contain the financial impact of the misstatement, but rather the accounting areas that are effected by the misstatement. After correcting the error or misstatement, the company then issues the corrected financial statements and footnotes through a Form 10-K/A. This adjusted Form 10-K/A then becomes the most accurate set of public financial statements for the public company. *Accounting Restatements and the Timeliness of Disclosures* provides a substantial analysis of how this timeline for restatement disclosures varies when factors are present. In general, “the firm typically discloses the restatement’s earnings impact within a day of the initial restatement announcement, and delays the quarterly earnings announcement and SEC filing by less than a week" (Badertscher and Burks, 1). Having a conceptual understanding of the restatement process was an important factor in establishing the research question at hand and the methodology used to answer the research question.

Financial restatements significantly impact the numerous users of financial information, inside and outside of the organization. The most visible external users of financial information are investors and creditors. Investors and creditors are often negatively impacted by a financial restatement because incorrect information has been used in their decision making process. Material errors in financial statements could lead investors and creditors to make decisions that they would not have made had the public financial information been correct. While the cost of this misrepresentation of public financial information cannot be quantitatively assessed, it is generally accepted that misinformation can negatively impact many individual investors and creditors. The organization could also face substantial penalties from the government, specifically the U.S. Securities and Exchange Commission. If a material error is not handled properly according to regulation, a public company could face law suits from the SEC or class action lawsuits from investors and creditors. An organization can also face non-monetary penalties such as additional restrictions or delisting from stock exchanges if a material error is not handled properly. The extent of the costs of financial restatements also stretches to internal stakeholders within the organization. The organization may face substantial opportunity costs when devoting accounting and law focus towards restatements when such time could be used elsewhere on more value added projects. The organization also may face costs for additional audits or higher fees for any given audit. *Restatement Disclosures and Management Earnings Forecasts* proves that the internal costs of restatements are impactful on companies and management's decision making. The authors state that "managers of restatement companies exhibit risk-averting forecasting behavior following restatements" (Ettredge, Huang, and Zhang, 2). Because financial restatements have such a large impact on organizations when they do occur, organizations focus a large deal of time and effort in making sure that effective controls are in place to prevent the possibility for material errors and thus, restatements. It is easy to recognize at first glance that the costs of a financial restatement are substantial, both to the external users of financial information and to the company that must restate. Therefore, it is of upmost importance that accountants and organizations understand what the recent trends in restatements are so that they can proactively plan against them to prevent errors.

In order for organizations to effectively design internal controls and prevent against the possibility of material errors, it is necessary to understand the causes of restatements and how these are changing over the course of time. If specific causes of restatements are identified, targeted solutions could be applied to mitigate the chance of repetitive or additional error. For example, accounting fraud could be diminished through increased regulation and auditing while clerical errors could be diminished through internal control and information system improvements. If organizations are aware of the current trends in restatements with regards to their causes, they are able to pre-emptively focus their efforts on the most common forms of restatements. It is in the best interest of public companies to devote their resources and accounting expertise towards the most momentous and frequent causes of financial restatements in order to prevent making a material error and facing the costs of a restatement.

Thus, this paper seeks to provide light with regards to the causes of financial restatements and how these causes are changing over the course of time. By doing so, organizations would be better equipped to minimize financial restatements. Financial information errors, which often lead to restatements, can impose very high costs on the organizations that must restate and external investors, creditors, and regulators. It is in the best interest of public companies to prevent restatements in order to avoid any costs that may be the result of a restatement. Furthering the prevalence of information on this subject will allow organizations to better prepare and adjust given current trends and thus decrease the number of financial errors and the costs of financial errors. The following section narrows down the topic of accounting restatement causes to a defined question.

Research Question

The research question that this paper seeks to answer is what trends are existent in the causes of financial restatements? Are there positive and negative trends in financial restatements caused by accounting errors, fraudulent activity, and clerical errors? The trends in the different causes of financial restatements will be compared and contrasted, noting any significant changes. Furthermore, this research question will be followed up by an anecdotal analysis of why these trends are seen. Bringing up various possible reasons to support the trends that are found allows us to look at why these trends are present. Simply pointing out the trends that are taking place in restatement causes is useful information, but understanding why these trends are taking place provides added value.

V. Relevant Literature

When searching for research done on accounting error restatements and how error reporting as changed over time, one particular paper is most relevant. The Center for Audit Quality published a paper titled *Financial Restatement Tends in the United States 2003 – 2012* with Professor Susan Scholz from the University of Kansas. This particular paper is the one of the only papers that has examined the subject of financial report restatements over the course of time. There are numerous differences between the Scholz study and the research project proposed in this paper. One major difference is that his paper will focus on the differences in trends of causes of financial restatements rather than broad trends in financial restatements. Focusing only on the causes of restatements in accounting rather than changes in accounting principle, changes in accounting estimates, and changes in the economy will allow me to develop insights on how mistakes are being made and how they are changing over time. By analyzing the causes of restatements, restatements could possibly be mitigated to some degree. Singling out how the causes of restatements in accounting will add additional value to the Scholz study.

The Scholz study had numerous significant findings, which warrants this additional analysis of error reporting. Scholz found that "The number of restatements has declined significantly since its peak in 2006, while the number of accounting issues underlying each restatement reported has also decreased, and the percentage of restatements that involve revenue reporting has leveled off to 10 percent of restatement volume for the last several years" (Scholz, 5). These findings are very similar to my own results. The results of the Scholz research study demonstrate that the area of error reporting in accounting could have some noteworthy time trends that have gone unnoticed. This research study will have the opportunity to investigate errors and mistakes in more detail than the Scholz study in order to add additional useful insights and answer the questions of the causes of restatements that contribute to the significant findings in Scholz.

In *Lessons Learned from our Review of Restatements*, Ernst and Young analyzes a variety of statistics regarding restatements. One of these is an analysis of the number of restatements from 2009-2011 that shows that the number of Restatements has decreased from 49 to 39 for Big R restatements and increased from 21 to 24 for little r restatements (Ernst & Young, 2). On page 3 of the paper, Ernst & Young illustrates the number and percentages of the restatements they analyzed that can be attributed to a wide variety of causes (Ernst & Young, 3). It is an important distinction to make between the causes explained in this paper and the causes explained in the Ernst & Young paper. The Ernst & Young paper speaks of causes as a source of the error such as the account name or type. The causes that I look to put into trend are more defined by the underlying cause such as whether the restatement is due to clerical errors or fraudulent actions. However, it would still be useful to look at the trends of the various accounts affected by the changes when looking at the trend analysis of financial restatement causes. The Ernst & Young paper then goes on to explain some of the most common sources of errors such as Income Taxes, Revenue Recognition, and Statement of Cash Flows (Ernst & Young 3-9). Overall this paper was significant in coming up with the idea of this research paper. By looking at the ultimate causes of financial restatements rather than the accounts that are effected by the restatements, more can be learned by any trends found in the data.

One factor that was necessary to consider in establishing the methodology of this research was the types of restatements that could be effectively captured in an analysis of reasons behind restatements. One example of such a question posed was to analyze only Big R restatements or included Little R restatements as well. Little R restatements occur when numerous small, immaterial errors occur that combine to create a material error that needs to be restated. Conversely, Big R restatements are those in which a large, material misstatement occurs and must be restated. One particular piece of relevant literature that helps to answer the question of whether or not to analyze Little R restatements is *An Analysis of 'Little r' Restatements* by Christine Tan and Susan Young. Tan and Young state that "little r restatements do not require an 8-K form or a withdrawal of the auditor opinion" (Tan and Young, 2) and create the first investigation on how common Little R restatements are. Tan and Young find that "approximately 12 percent of the companies in our total sample have little r restatements" (Tan and Young, 2) indicating that Little R restatements are measurable and prevalent. Based on this research study and other research regarding Little R restatements, it was chosen not to include Little R restatements in the investigation of the reasons behind restatements in this study. Because Little R restatements are not publicly reported and often contain little information as to why the restatement occurred, it would be very difficult to compile useful data to analyze regarding the reasons behind Little R restatements. The exploration of Little R restatements through other relevant research was just one of numerous research studies that helped to provide scope and informed decision making when determining the methodology of this research study.

One interesting discussion that developed through reading relevant literature was the countless relationships to restatements that could be investigated. Because restatements come with large costs both to internal stakeholders and external stakeholders of companies, numerous other research studies have investigated the impact of restatements on company results. Additionally, many research studies have investigated how the likelihood of restatements is impacted by company factors or broader, accounting environment factors. One intriguing example of this is *The Financial Expertise of CFOs and Accounting Restatements* by Jagadison

K. Aier, Joseph Comprix, Matthew T. Gunlock and Deanna Lee. This particular studies investigates if a relationship exists between the experience, financial literacy, and education of CFOs and whether or not a company has restated their financial statements. The study finds that organizations with highly educated or experienced CFOs are less likely to restate their financial statements (Aier, Comprix, Gunlock, and Lee). This particular research study is just one of numerous that investigates what factors investigate the likelihood of restatement. Vice versa, numerous research studies investigate how restatements impact tangible results of organizations. After the analysis of the Aier, Comprix, Gunlock, and Lee publication, it is evident that this research study can take numerous tangents to investigate what factors impact the causes of restatements and how each category for restatements has a differing outcome on tangible results.

The review of relevant literature completed at the start of this research study accomplished three significant contributions. First, relevant literature was able to limit the scope of this study both by looking at what research has already been done and what research would not add additional value. Second, relevant literature review ensured that the research being done in this study would add value and contribute significantly to the wealth of knowledge that already exists on restatements. Third, reviewing relevant literature provided ideas for numerous specific avenues that could be investigated to build upon this research at a further point in time. By establishing a clear understanding of relevant literature on the topic of accounting restatements, trends in restatements, and causes of restatements, this research study has become more focused and meaningful relative to the ongoing discussion regarding restatements.

VI. Methodology

Data Collection

In analyzing the trends in causes of financial restatements over the course of time, a large quantity of secondary data was collected. When determining the most effective data source to answer the research question, the proposition of collecting primary data was quickly eliminated. Collecting primary data that is large enough in quantity to be significant could prove to be very time consuming and inefficient. While all of the information regarding public company restatements is widely available via the Securities and Exchange Commission and press releases, the available information is rarely in a usable form of data. For example, a typical Form 8-K Item 4.02 Non-Reliance Disclosure contains paragraphs of text describing the reason for the misstatement and potential restatement. The only way to make this information usable for this study would be to manually read through a Form 8-K disclosure and manually convert any information conveyed in the disclosure into a database. This process of reading the disclosure, interpreting the meaning, and manually entering data would need to be repeated for each restatement. Such a process could also become prohibitively subjective in the determination of the message of the disclosure and how to convert that into usable data. Also, such a process would take a substantial amount of time to achieve a desired number of observations. Due to these prohibitive obstacles, it was decided that it was necessary to acquire secondary data.

A possible short-fall of acquiring secondary data is allowing the data that is widely accessible and available to influence your research question. It is important to avoid simply making a research question based on the initial data set that you are able to obtain. Rather, it takes effort to develop an insightful research question before the data is obtained. Therefore, a crucial factor in deciding the research question to study was whether or not it is would be easily measurable. For example, if the research subject was private company restatements, it would be very difficult to obtain data.   This is because there is not public information on private company financials that would become the basis for the analysis. Thus, when choosing the research question of this paper, we considered what should be widely available without letting the most prevalent data define the question.

After deciding on a question that was likely to have available data, a handful of possible data sources were identified. When a data source was considered for use, a few factors needed to be analyzed. First, the data needed to have variables that illustrated the underlying reasons behind financial restatements. Without having information on the pivotal question, the trends in causes of financial restatements, the data was useless. Second, the quantity of the data was considered. By using secondary data sources, a massive number of restatements could be included in the analysis in a time-efficient matter. Most of the data sources considered had hundreds to thousands of restatements that could be considered. Third, the quality of other variables measured was examined. If variables such as the company size, auditor, or industry were included in the secondary data, a wider variety of trends could be investigated. Lastly, the availability and affordability of access to the database was explored. The accessibility of the data was an important factor because overly restrictive data would be troublesome to obtain access to. These four factors, among many others led us to the data source used in the analysis.

To conduct the analysis of trends in causes of financial restatements, Audit Analytics through the Wharton Research Data Services was used. This data set had a good balance of the factors explained above and presented itself as one that could be adequately used to answer the research question. The Audit Analytics database provided by Wharton Research Data Services was readily accessible via public institution access sharing, provided an endless number of measured variables that could be considered in trend analysis, had over a thousand observations that would lead to strong aggregate findings, and clearly outlined the underlying cause of each restatement reported. Overall, Audit Analytics through the Wharton Research Data Services made for an efficient and effective data set to perform the analysis performed in the following sections of Methodology.

Data Clean Up

Before analysis was performed, the data needed to be manipulated substantially. The audit analytics database used in this study contains over 200 variables. A significant portion of these variables are completely insignificant when it comes to this particular research study and needed to be thrown out. After examining at the variable dictionary, all variables that were not relevant to the study or did not consist of a possible significant trend were thrown out. For example, variables such as company size, date of restatement, and details of the restatement were included while other irrelevant variables such as company address, stock price changes, and board information were excluded.

The data available using audit analytics also had a large possible time range. Data could be pulled starting from 1995 up until the present, 2015. It was elected that due to changes in restatement regulations over the course of time, it would be ineffective to analyze all twenty years of data. It was chosen to only look at restatements starting in 2004 until 2014. Due to the implementation of the Sarbanes-Oxley Act of 2002, the requirements for restatements vary greatly over the time period of 1995 to 2015. In order to capture any trends with regards to the reasons for restatements independent of the effect of Sarbanes-Oxley, it was decided that only restatements filed after January 1st, 2004 would be considered. If this research study was to look at trends prior to 2004, any findings would not be directly comparable to trends after 2004. It was also decided that only restatements filed prior to December 31st, 2014 would be considered in this research study. This decision was made because 2015 data was not complete at the inception of this research. In an analysis of trends, it would only be useful to look at data for complete years. It is likely that the trends in accounting restatements and errors change over the long term due to changes in technology, regulation, and education. It is unlikely that the changes in the underlying reasons behind financial restatements would be sudden, excluding a few unique scenarios. Therefore, by capturing as much history of comparable and continuous data as possible, more could be learned from the data.

After narrowing the data to a smaller set of variables to analyze and a smaller, more significant amount of observations to analyze by limiting the years studied, the findings of any research conducted on the data would be more robust. Overall the data contained over 3,800 unique restatements from 2004-2014. The next section explains the most noteworthy variables analyzed followed by an explanation of any assumptions made during the research process.

Noteworthy Variables

The primary analysis in this research study focused on three primary classifications of underlying reasons behind restatements: accounting, clerical, and fraud restatements. It is important to understand the exact definition and examples of these variables in order to effectively interpret the results of the research.

To begin the discussion of the classifications for the reasons behind restatements, we rely upon research conducted in *Stealth Disclosure of Accounting Restatements*. This research explains the various ways that companies disclose their restatements as high, medium, or low prominence. High prominence disclosures contain the restatement information in the disclosure title while low prominence disclosures contain the restatement information later in the body of the disclosure (Files, Swanson, and Tse). This research illustrates the important point that there is a large amount of subjectivity in the ways that companies disclose restatements. The data used in this study contains three classifications for restatements: accounting, clerical, and fraud. The classification was chosen by data preparers after reading Item 4.02 Non-Reliance Disclosures. Thus, we must discuss further the objectivity of the classifications for restatements.

A restatement classified as being attributed to an accounting error indicates that the misstatement in original financial information may be due to flawed accounting judgement. Essentially, an accounting error classification indicates that an accounting decision was made in good faith, but was not the most accurate way to account for the issue at hand. For example, an accounting misstatement classification may mean that there were classification errors or recognition errors.

A restatement classified as being attributed to a clerical error indicates that the misstatement in original financial information is due to a mistake not attributable to profession judgement or decision making. Such a clerical error can be made at any stage of the accounting process and is never due to intentional wrongdoing. Examples of clerical error include transposition, omission, or duplication mistakes. Clerical errors are often made when accounting information is input into systems but can also be due to accounting information system output errors.

A restatement classified as being attributed to a fraud indicates that the misstatement in original financial information was the result of intentional manipulation of accounting information in order to receive some form of benefit. While accounting frauds are typically thought of as large scale, destructive schemes such as the Enron or WorldCom fraud cases, they can also be due to any one individual manipulating the accounting system for personal benefit. While fraud restatements are not as common as the clerical and accounting counterparts, they are often the most negatively impactful and costly to stakeholders of public companies.

Assumptions

Before performing the statistical analysis of the trends in the reasons for restatements, two necessary assumptions were made in order to simplify small anomalies in the data that could complicate results. First, any restatement that was classified in the dataset as “other” was not included in the analysis of restatement trends. These restatements classified as “other” have little to no explanation as to what specifically triggered the restatement. With the brevity of information regarding these “other” restatements, it would be futile to extrapolate any results using the category of “other”. As a result, any restatements classified as “other” were excluded from all total trend analysis in addition to any specific analysis by classification. The second significant assumption is that any restatements that were classified as having multiple attributable reasons were considered a separate restatement for each attributable explanation. For example, if a particular restatement was identified as having both accounting and clerical issues as a potential cause, it was considered two separate restatements, one with an accounting misstatement designation and one with a clerical error designation. This assumption is logical because restatements may have multiple material errors, all of which could be corrected in one restatement. Both the number of “other” classifications and number of restatements attributed to multiple causes are insignificant, supporting the validity of these assumptions.

Statistical Analysis

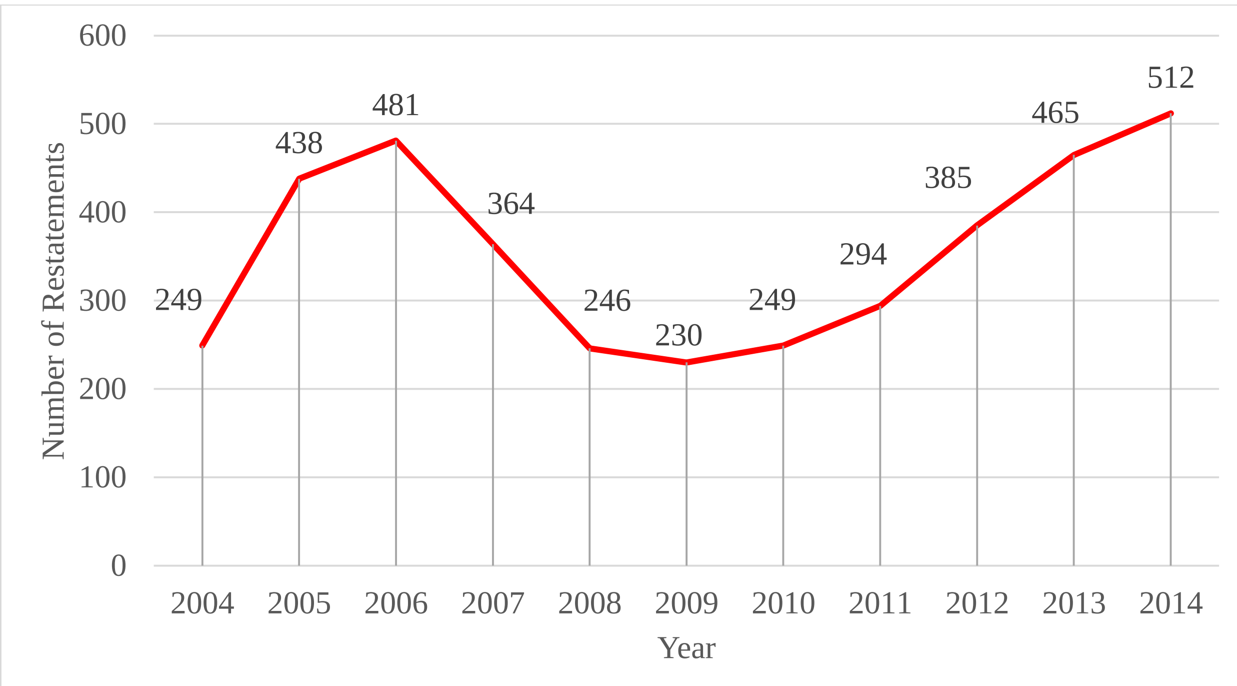
The methods of statistical analysis in this research study are simple and understandable. By selecting the following simple forms of statistical analysis, we were able to look at a greater number of trends and variables. The data was initially analyzed on the broadest level by looking at the trends in the various causes of financial restatements. This analysis consisted of plotting trend lines using Excel. It also consisted of obtaining basic descriptive statistics. The next step of the analysis was to look into what trends were significant regarding the many variables kept in the data set. The process of looking through these many possible trends consisted of creating a scatterplot for each trend over time with respect to restatement cause and seeing if there was a strong positive or negative trend. If there appeared to be a strong trend over time, a regression analysis of the particular trend was performed. Simple linear regression analysis was used as the primary form of regression as various other regression analysis could be eliminated as reasonable statistical analysis. For example, for many of the trends analyzed, performing a logarithmic regression would not fit the trend accurately. In certain cases, it was deemed as necessary to explore other forms of regression analysis in addition to simple linear regression analysis. The results of the descriptive statistics analysis and regression analysis can be seen below in the Results and Findings section.

VII. Results and Findings

Overall Trend in Restatements

In order to thoroughly analyze the trends in the reasons for restatements, we initially measured the current changes in the total number of restatements. Plotting the trend in the total number of Item 4.02 Non-Reliance Disclosures from 2004 to 2014 produces the following trend-line.

Figure 1



The total number of restatements rose from 2004 to 2006, fell from 2006 to 2009, and has increased every year since 2009. Regression analysis of the years 2009 to 2014 indicates a significant upward trend with a p-value of <0.002. The linear regression analysis explains that the total number of restatements has increased at about 50 restatements per year since 2009. Appendix A contains regression results for the trend in the total number of restatements from

2004 to 2014. As explained in the Relevant Literature section, this overall positive trend in the number of restatements has been recognized by previous researchers. The analysis performed on the total number of restatements confirms that the existence of an increasing total number of restatements holds true for the Audit Analytics data used throughout this research. This drastically increasing number of restatements was expected and was a major contributor in the decision to attempt to break down what are the causes behind restatements.

Trends in the Total Number of Restatements as a Proportion of the Number of Companies Listed on US Stock Market Exchanges

Before elaborating further on the reasons behind this large increase in the total number of restatements, it is important to acknowledge a significant contributor to the total number of restatements. As the total number of public companies changes, the total number of restatements will likely follow. An initial glance at Figure 1 above shows that the trend in the total number of restatements somewhat follows changes in US economic conditions. This explanation is logical, as more public companies, especially more new public companies would lead to a higher chance for error leading to restatement. For example, in a year when the US economy is in a recession, there may be up to 5000 or a third less public companies. With significantly less public companies, many companies that would typically face a chance of restating, no longer exist. Vice versa, in a year of economic prosperity, there may be up to 5000 or a third more public companies. Both the increase in the number of companies and the number of newer companies that are more prone to financial restatement errors could contribute to a spike in restatements. In order to determine the effect on the total number of public companies impacting the total number of restatements, we analyzed the trend in the percentage of public companies restating every year.

Information on the total number of publicly traded companies in the US was taken from publicly available data provided by The World Bank. This data contains the number of companies listed on a US domestic stock exchange at year-end from 2004 to 2014. While this data on the number of companies listed on US stock exchanges may not be fully representative of the total number of companies that could potentially file an Item 4.02 Non-Reliance Disclosure in any given year, it provides for a broad observation of how the number of restatements moves with the number of publicly listed companies. Figure 2 illustrates the trend in the total number of public companies listed on US stock market exchanges, per The World Bank data. Figure 3 illustrates the trend the total number restatements as a percentage of the number of listed public companies in any given year.

Figure 2

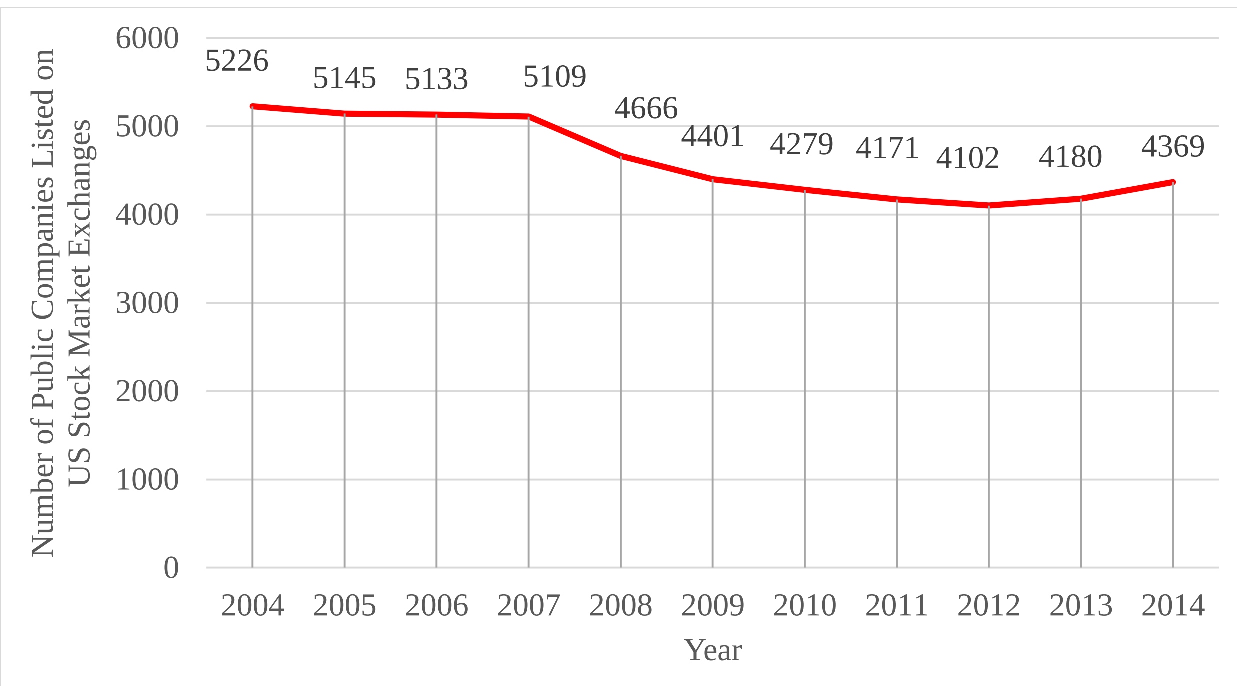


Figure 2 illustrates that the total number of public companies listed on US stock exchanges has consistently fallen from 2004 to 2012 and risen from 2012 to 2014.

Figure 3

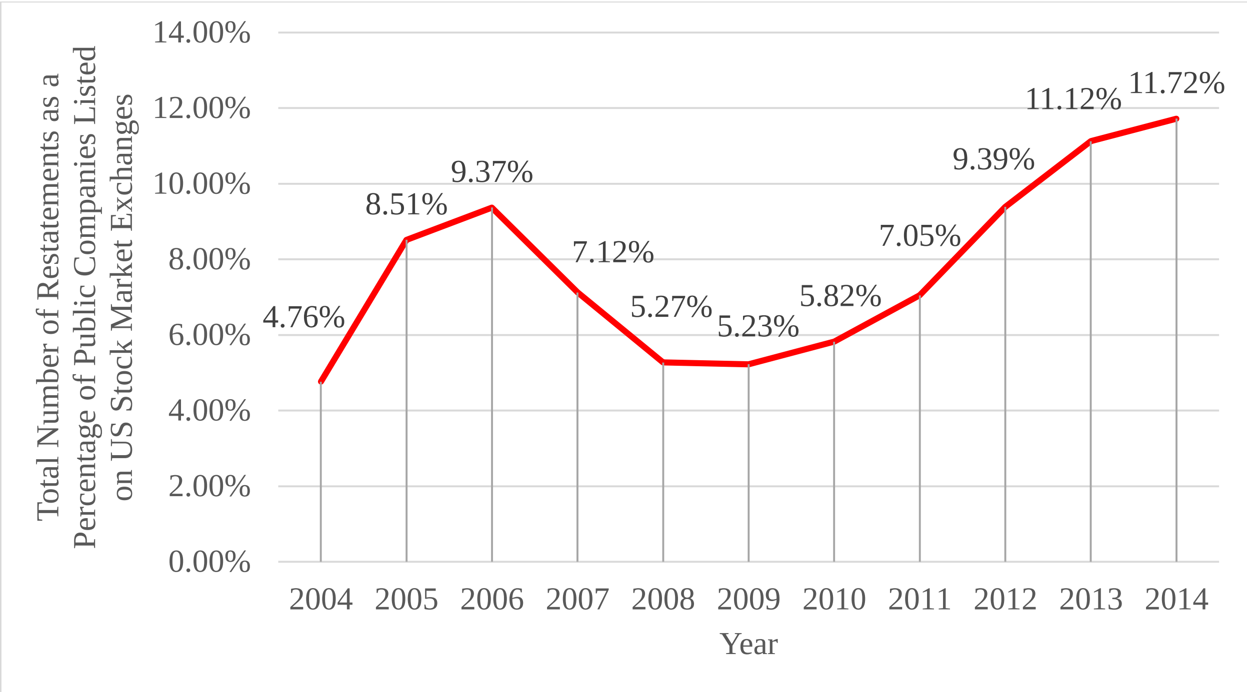


Figure 3 illustrates that the total number of restatements in Figure 1 follows closely with the total number of restatements as a percentage of publicly listed US companies. Similar to the core number of restatements shown in Figure 1, we see that the total number of restatements as a percentage of publicly listed US companies increases from 2004 to 2006, falls from 2006 to 2009, and has increased from 2009 until 2014. The total number of publicly listed US companies has little effect on the total number of Item 4.02 Non-Reliance Disclosures issued during any given year. The total number of restatements is increasing independent of the number of listed public companies. The results of the above analysis are consistent with the findings by the Government Accountability Office in *Financial Restatements, Update of Public Company Trends, Market Impacts, and Regulatory Enforcement Activities*. The Government Accountability Office found that "the number of public companies announcing financial restatements from 2002 through September 2005 rose from 3.7 percent to 6.8 percent" (GAO, 4), similar to the increase found in this time period in Figure 3.

The analysis performed on the total number of restatements and the total number of restatements as a percentage of public companies listed on US stock market exchanges proves that restatements are increasing substantially since 2009. The following analysis of the reasons behind trends in restatements attempts to uncover what may be contributing to the increasing amount of restatements.

Trends in the Quantity of Accounting, Clerical, and Fraud Restatements

In order to evaluate possible factors contributing to the rise in the number of restatements demonstrated above, the next step of this research was to look at how the three categories for reasons for restatements may be changing over time. In this analysis, we first looked at the total number of each category of restatement over time and then looked at the percentage of total restatements caused by each category of restatement. By analyzing the changes in the proportion of restatements attributable to each restatement reason, we are able to understand which reason for restatement serves as a predominate factor in the changes in the total number of restatements.

To begin this analysis, we looked at the changes in the total number of each category of restatements to see whether these categories were experiencing substantial absolute quantity changes. The analysis of the absolute quantity changes is important to see if each reason for restatement has become more or less prevalent regardless of changes in total number of restatements. The analysis of absolute quantity changes is also important because it allows us to see how substantial the quantity of each category of restatements is. For example, this analysis allows us to see whether the absolute quantity of fraud restatements is increasing or decreasing as well as whether the total number of fraud restatements in any given year is large enough experience long-term trends. Figure 4 below illustrates the absolute quantity trends for accounting, clerical, and fraud restatements.

Figure 4

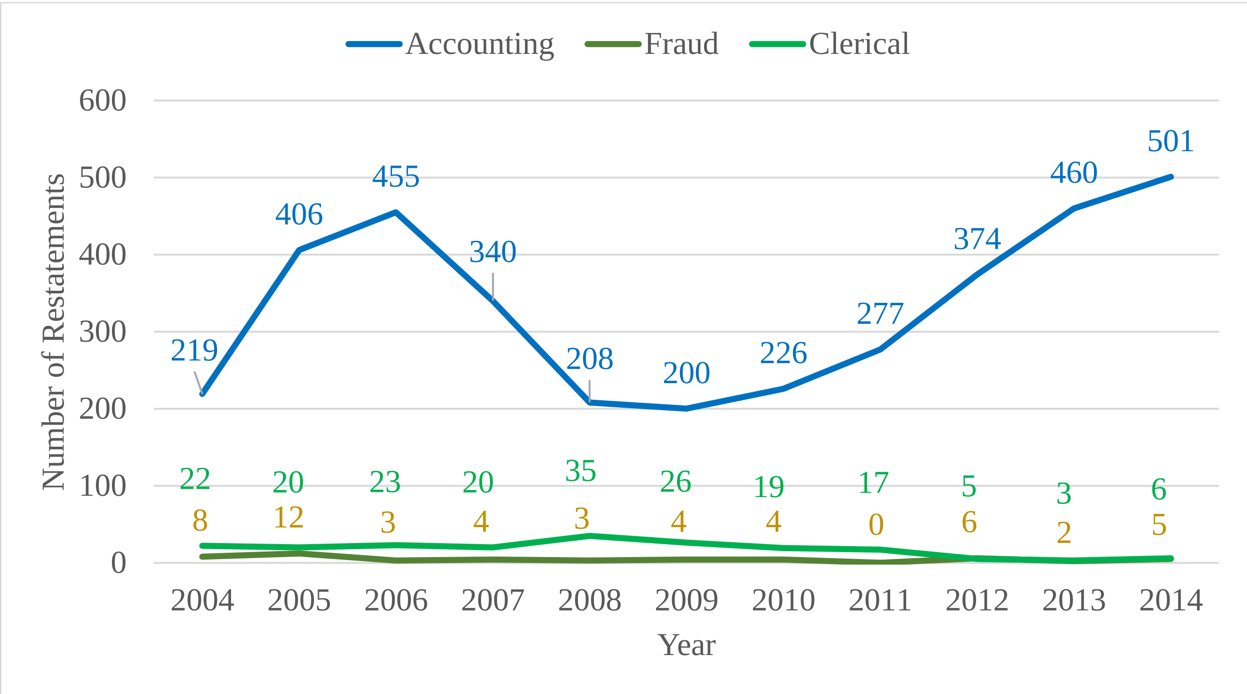


Figure 4 above shows the trends in the quantity of accounting, fraud, and clerical restatements from 2004 to 2014. An examination of Figure 4 shows that restatements attributable to accounting misstatement rose from 2004 to 2006, fell from 2006 to 2009, and have increased every year since 2009. The trend for the quantity of accounting restatements follows the overall trend in the total number of restatements accurately. Comparing the trend in the quantity of accounting to restatements to the trend in the total number of restatements, we find many similarities, initially suggesting that accounting restatements may be the most significant influence to the total number of restatements. It is clearly evident that accounting misstatements represent the majority of the total number of restatements and subsequently, a statistically significant proportion of the total number of restatements.

Next, we notice that the total number of clerical error induced restatements fluctuates form 2004 to 2008, falls from 2008 to 2012, and has fluctuated at a minimal level since 2012. This trend suggests that clerical errors were not substantially addressed or fixed until 2008 at which point a variety of environment factors such as accounting information system capabilities decreased the commonality of clerical errors in accounting. The data on clerical errors from 2012 to 2014 suggests that clerical errors are no longer a prevalent issue as a cause of restatements. With a total of 196 clerical error restatements in the time period of 2004 to 2014, it can be assumed that clerical errors represent a statistically significant proportion of the total number of restatements.

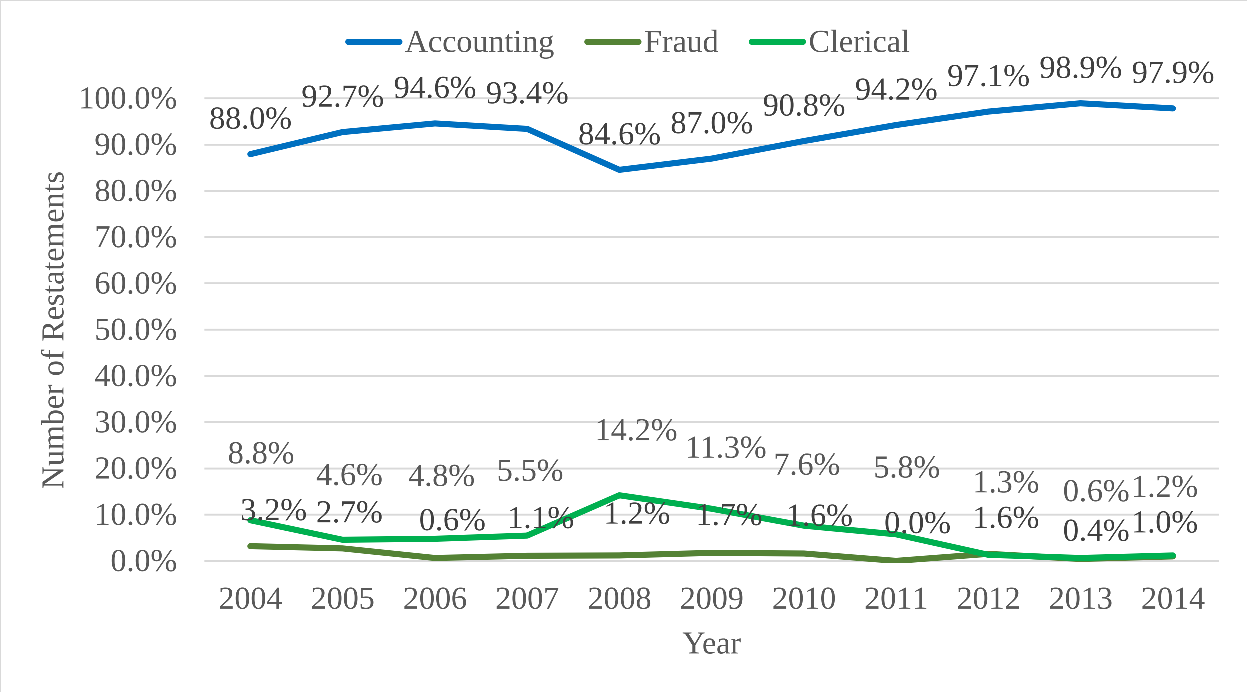
Lastly, Figure 4 illustrates that the total number of fraud induced restatements has consistently fluctuated at anywhere from zero to six restatements since 2006 compared to substantially higher number of restatements in 2004 and 2005. This trend may be the result of regulation in the early 2000s such as the Sarbanes-Oxley Act and later, an inability to completely eliminate the possibility of fraud in accounting systems. With only 51 observations of fraud as a reason for a restatement over the course of 10 years, the number of fraud restatements in any given year is potentially subject to unpredictable random factors rather than distinguishable environmental changes or characteristics.

The initial analysis of the quantity of restatements over the course of 2004 to 2014 for accounting, clerical, and fraud restatements results that accounting restatements are increasing, clerical error restatements are decreasing, and fraud restatements are fluctuating. This analysis, however, fails to capture which of these three categories of restatements is most significantly contributing to the total number of restatements. Next, we will look at each reason for restatements as a proportion of the total number of restatements. The goal of the following analysis is to specify how each category for restatements is affected by the total number of restatements and vice versa, how the changes in each category of restatements contributes to the total number of restatements.

Trends in the Proportion of Accounting, Clerical, and Fraud Restatements

The following analysis provides a more valuable perspective on the changes in each type of restatement reason. By considering the quantity of accounting, clerical, and fraud restatements relative to the total number of restatements, we are able more accurately analyze the changes in the reasons for restatements. By doing so, we are able to eliminate the impact of the total number of restatements every year and focus solely on how the reasons behind restatements are changing over time. Figure 5 below illustrates the trends in the proportion of accounting, clerical, and fraud restatements.

Figure 5



As could be expected after the previous investigation on the absolute quantity of each form of restatement, accounting misstatements make up the large majority of all restatements. It is quick to notice that the trend in the percentage of total restatements attributable to accounting misstatements follows the trend in the total number of restatements closely. The proportion of restatements attributable to accounting misstatement rises from 2004 to 2006, falls from 2006 to 2008, and has increase from 2008 onwards. The percentage of errors attributable to accounting misstatement appears to be fluctuating at about 97 to 99% since 2012. We notice that as the total number of restatements increases, the proportion of restatements attributable to accounting misstatement increases, suggesting that the majority of the increase in total restatements is due to a continuous increase in accounting misstatements. Linear regression analysis explains that accounting errors increased at about 2.5% per year from 2008 to present day. With a p-value of less than .001, we conclude that the increase in the proportion of restatements attributable to accounting misstatement is statistically significant. Appendix B contains regression results for the trend in accounting restatements from 2004 to 2014. As the percentage of restatements regarding accounting misstatement makes up a greater portion of total restatements, the commonality and impact of clerical and fraud restatements decreases.

As restatements classified as accounting restatements increases as a percentage of all restatements, restatements classified as being caused by clerical errors decreases substantially. The proportion of all restatements attributable to clerical error started off fluctuating at about 5% in the early 2000s, peaked in 2008 at 14% of all restatements, and has fallen every year through 2012. Since then, the percentage of restatements caused by clerical error has fluctuated between 1 and 2% per year. Linear regression analysis shows that the proportion of restatements attributable to clerical error has been decreasing at about 2.3% per year since 2008, also with a statistically significant p-value less than .001. Appendix C contains regression results for the trend in clerical error restatements from 2004 to 2014. Clerical error has gone from being a common reason for restatements in 2008 to an extremely rare form of restatement present day. Much of the decrease in the number of clerical errors is overshadowed by the subsequent increase in the number of accounting misstatements.

While fraud restatements are clearly the rarest of the three types of restatements studied, fraud restatements often have the largest impact on companies and their stakeholders. Fraud restatements were most common prior to 2005 when about 3% of all restatements were due to fraud. In 2006, the proportion of restatements attributable to fraud was about three quarters of the previous year's results at only 0.6%. It is notable that since 2006, the proportion of restatements due to fraud as fluctuated between 0 and 2%. While it is clear that the number of fraud restatements has decreased over time, a regression provides only a 0.1% per year decrease in fraud restatements at a much lower significance level with a p-value of less than .05. Appendix D contains regression results for the trend in fraud restatements from 2004 to 2014.

Comparing the results of the proportion of restatements attributable to each cause with the actual quantity of each category of restatements provides similar results. Both of these investigations prove that accounting error has been increasing substantially since 2009 and contributing largely to the upward trend in the total number of restatements. Both of these investigations also prove that clerical error has fallen since 2009 despite increases in the total number of restatements. While the absolute quantity of fraud restatements shows no trend, the proportional analysis adds that fraud is also falling as a proportion of total restatements. These findings point towards an increase in accounting misstatements being a potential driving factor behind the overall increase in the number of restatements.

VIII. Discussion

Any level of research performed on the topic of financial restatements is valuable in the effort to eliminate errors and maximize accuracy in the field of accounting. Having an in-depth understanding of financial restatements gives the accounting discipline the ability to distinguish why errors occur and to establish possible methods to decrease errors. In an ideal world, there would be no possibility of errors in accounting systems and all information produced using accounting principles would be completely accurate. While it is impossible to completely eliminate error and achieve complete accuracy, it is in the best interest of all stakeholders and information users to minimize the quantity of accounting errors. By minimizing the quantity of financial misstatement, substantial costs are avoided by numerous kinds of stakeholders. Investors and creditors are able to make well-informed decisions using accurate financial information. Companies are able to avoid law suit, wasted accounting time on restatements, and additional audit fees. This research study takes one step forward in discovering more information regarding the underlying errors behind restatements.

The initial analysis of the changes in the total number of restatements should immediately motivate the field of accounting to focus on the increasingly important problem that is restatements. Consistent, year-over-year increases in the total number of restatements since 2009 illuminates that restatements are far from a rare occurrence. With every yearly increase in the total number of restatements, more stakeholders are negatively impacted by incorrect information or by the many costs of the restatement process. In order to take action to decrease the number of errors in the field of accounting, we must first recognize that an extensive restatement problem exists. We must also recognize that the extent of the problem of restatements is intensifying with nearly 50 additional restatements occurring every year.

However, merely recognizing that the number of restatements is increasing is not enough to diminish the number of material errors happening every year. While it is essential that the field of accounting acknowledges the widespread practice of restating, accountants must also understand why restatements are so commonplace and why restatements are rising.

The analysis performed in this research undoubtedly points to accounting misstatement as the driver behind the majority of restatements. It is clearly evident that the increasing number of restatements is partially attributable to an increased frequency of accounting misstatement. The category of accounting misstatements is the only area that shows a consistent increase over the time period of 2004 to 2014. As the total number of restatements is increasing year over year, the percentage of restatements attributable to accounting misstatement also increases year over year. While the analysis in this research does not imply that fixing accounting misstatement would completely eliminate restatements, the research does suggest that accounting judgement errors should be a primary focus when it comes to diminishing restatements. If accounting misstatements are left unchecked, the total number of restatements will continue to rise. Intentional focus should be placed on researching more information on specific accounting judgement errors that can be eliminated through regulation, technology, or education. *An Analysis of the Underlying Causes Attributed to Restatements* suggests that "complexity of the accounting standards, internal control reviews, changes in materiality thresholds, the overly conservative nature of auditors, earnings management, increased transaction complexity, and the second guessing of management judgments, by a variety of interested parties" (Plumlee and Yohn, 2) are some of the many factors contributing to increases in accounting misstatements. Because of the massive quantity of accounting restatements, focusing on eliminating accounting misstatement would contribute most significantly to diminishing the total number of restatements and hindering the yearly rise in the total number of restatements.

The most significant decrease seen in the reasons attributable to restatements is in clerical errors. Both the quantity of clerical error restatements and the proportion of restatements attributable to clerical error have fallen every year since 2009. This finding makes logical sense due to numerous advancements since 2009. Possibly most important of all, advances in technology since 2009 could have substantially contributed to the decrease in clerical errors. With more advanced accounting information systems, there is less chance for clerical error in a typical accounting cycle. Increasing technological abilities not only help to prevent errors from occurring in the first place but can also be effective in finding and correcting clerical errors before financial information becomes public. While technology is not a perfect solution to clerical errors, it is certainly successful in both the prevention and correction of would-be clerical errors. In addition to advances in technology, education, increased internal controls, and increased auditing could also help to explain the decrease in clerical errors. With clerical errors currently making up less than 2% of all restatements, intentional focus should be placed on eliminating more frequent errors while technological development and other factors continue to mitigate clerical errors.

While not as significant as the decrease in clerical error restatements, the frequency of fraud induced restatements has decreased since 2004. The fact that fraud restatements have decreased over the long-term is a positive observation. Fraud restatements often encompass larger costs to both internal and external stakeholders of public companies than the other forms of restatements analyzed. Eliminating one case of a fraud may be more valuable than eliminating multiple cases of accounting misstatement or clerical error. The decreasing trend in the number of fraud restatements is also logical due to the intentional effort put on catching and eliminating fraud since the early 2000s. With additional internal control requirements and more stringent regulation, it is expected that fraud would be less commonplace in the current day than in the early 2000s when many regulations were first being implemented. While fraud only represents about 1% of all restatements, it is important to continuously investigate for fraud and adjust regulations as the environment for fraud changes. While fraud must not be neglected as a cause of restatements, it is not the top priority in the endeavor to stop the mounting total number of restatements every year.

IX. Conclusion

The total number of restatements has increased consistently since 2008 at a rate of about 50 additional restatements every year, despite fluctuations in the economy and the number of public companies. Each restatement that occurs exhibits costs to external stakeholders of public companies and the public companies themselves. The underlying errors that lead to restatements must be eliminated in order to avoid the costs that each restatement causes. Both intentional and unintentional efforts have decreased the proportion of restatements explained by clerical errors from over 14% in 2008 to about 1% in 2014 and decreased the proportion of restatements explained by fraud from over 3% in 2004 to under 1% in 2014. However, the proportion of restatements explained by accounting errors has increased from about 86% in 2008 to over 98% in 2014. While massive strides have successfully diminished clerical error and fraud, little has been done to decrease the widespread occurrences of accounting misstatement. While it is plausible that increased regulation and advancements in technology may decrease clerical error and fraud, no efforts have successfully decreased the total number of restatements since 2008. Even as clerical error and fraud are mitigated, accounting misstatement continues to drive up the total number of restatements. In order to work towards eliminating the challenge of increasing quantity of restatements, the field of accounting should focus on obtaining more information on what specific accounting misstatements can be eliminated. After doing so, actions could be taken to create a more consistent accounting environment that is less prone to accounting misstatement. After intentional changes to the accounting landscape that reduce the opportunity for accounting error, it will be possible that the upward trend in the total number of restatements be stopped and eventually, reversed.

X. Recommendations and Future Research

Due to the lack of prevalent research that focuses on the underlying reasons causing restatements and ways that the number of restatements can be diminished, there are multiple avenues of further research that could add value to the discussion. After discussing the findings of this research, we have identified five promising opportunities for further research. Each of these prospects focuses on discovering trends in financial restatements that help to diminish the impact or number of financial restatements.

To begin, it would be highly valuable to regulators, investors, and corporations to have a prediction of the number of restatements that may occur in any given year. Given the trend analysis done in this research, developing a research-backed model that could predict the number of restatements during a year could provide priceless information. Such a model could consider a wide variety of factors that contribute to the number of restatements such as the state of the economy and the impact of recent regulation. Using historical trends in the number of restatements post-Sarbanes Oxley as influenced by numerous independent variables could allow for a predictive model. The most significant benefit of such a model would be that regulators and educators could further understand what may cause a spike in restatements and work to mitigate the rise in restatements before it occurs. By doing so, such a model could allow for pre-emptive action to prevent many of the high costs of restatements. The major limitation of predictive model research with regards to restatements is the inability to capture the many variables that may impact the number of restatements. It could potentially be very problematic to identify each factor that contributes to the number of restatements and furthermore, quantify the factors that may influence the number of restatements.

A more practical concept for further research is to look at the very specific reasons behind restatements and identify which specific items or issues are most critical. In the analysis provided by this research, all restatements were classified under either an accounting, clerical, or fraud restatement. This simplifying assumption allowed for focused analysis on clear and actionable trends. As explained in the methodology section, the Audit Analytics database utilized in this research contained information regarding the specific line item affected for reach restatement or information regarding the underlying issue that may have led to the restatement. For example, the dataset may identify that revenue recognition issues were identified in the Form 8-K Item 4.02 Non-Reliance Disclosure as one potential reason behind the restatement. The benefit of extensive research on these specified issues at hand is that it would provide for more specific evidence of what areas of accounting can be focused on to diminish the number of restatements. A major limitation of this particular research possibility is that there is a large number of different issues that can be identified as a particular contributing factor. The findings of this subsequent research could be clouded by many one-off identified issues and unclear rules for naming and identifying issues.

Another potential development that could be made with regards to this research project would be to extend upon the procedure of categorizing companies and looking at the trends by each category. An example of this executed in this research is splitting the companies that have restated by size. After categorizing the organizations by large accelerated filer, accelerated filers, non-accelerated filers, and smaller reporting companies, we were able to identify if there were varying trends across different company sizes. There are numerous other variables in which companies can be classified and compared across classification. For example, further research could look at how trends vary with regards to auditor or audit fees. One particular research study that brings up the discussion of the auditors and restatements is *Evidence on the Association between Financial Restatements and Auditor Resignations*. This study finds that restatements have a relationship with increased auditor resignations and numerous restatement factors such as fraud can further increase this risk (Huang and Scholz). This provides one example of many avenues through which the reasons for restatements have been tied to external relationships, such as those with auditors. Further research could also look at how the trends vary with regards to financial performance such as asset level, net income level, or stock price. Basic company information such as industry, location, or degree of global operations could also be analyzed for varying trends. The benefit of further analysis with regards to comparison groups is the possibility of uncovering underlying circumstances or conditions that increase the likelihood of a restatement. A limitation of such an approach is that extensive testing and analysis would need to be performed without any hypothesis explaining why a particular trend is likely to be found.

The restatements analyzed in this project were restatements classified as a Big R restatement. Simply put, a Big R restatement occurs when a material misstatement or error was found in the financial statements of a public company and must be corrected. The converse of a Big R restatement is a Little R restatement. A Little R restatement occurs when numerous small, immaterial errors aggregate over time to become a material error. Further research on the trends and requirements behind Little R restatement reporting could be thought-provoking. Due to the numerous varying methods that organizations report Little R restatements and the lack of requirements behind Little R restatements, in-depth analysis of trends in Little R restatements could be troublesome. Additional research could add a lot of value to the general understanding of the impact of restatements as the effect of Little R restatements has been largely ignored in the past.

A final recommendation for further research would be expanding the population of companies analyzed for restatement trends. The research outlines in this thesis looked at all public companies registered on U.S. stock market exchanges. Further research could add value to the discussion by including restatements in other international stock market exchanges. Rather than just looking at companies that are governed by U.S. Generally Accepted Accounting Principles and enforced by the Securities and Exchange Commission, further research could include restatements by companies following International Financial Reporting Standards. After analyzing the trends and impact of restatements in international markets, the research could compare the international system for accounting misstatement reporting to that of the United States and suggest ways in which the regulation of accounting can be adjusted to decrease the number of restatements. Opening up the conversation to the international market of public companies would undoubtedly provide many avenues for further research.

Any level of additional research performed on the subject of restatement trends and restatement impact would expand the knowledge of why restatements occur. Doing so would allow additional actions to be taken to reduce the number of restatements that occur every year and consequently reduce the impact of restatements on investors, creditors, public companies, and numerous other stakeholders.

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XII. Appendix

Appendix A – Total Restatements Regression

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.946600969							
R Square	0.896053394							
Adjusted R Square	0.875264073							
Standard Error	40.99059125							
Observations	7							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	72420.57143	72420.57143	43.10162	0.001229558			
Residual	5	8401.142857	1680.228571					
Total	6	80821.71429						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-101937.1429	15578.20636	-6.543573793	0.001248	-141982.1971	-61892.0886	-141982.197	-61892.0886
X Variable 1	50.85714286	7.746493611	6.565182315	0.00123	30.94414709	70.77013862	30.94414709	70.77013862

Appendix B – Proportion of Accounting Restatements Regression

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.962327145							
R Square	0.926073534							
Adjusted R Squa	0.911288241							
Standard Error	0.0167659							
Observations	7							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.017606348	0.017606348	62.63477685	0.000518446			
Residual	5	0.001405477	0.000281095					
Total	6	0.019011826						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-49.49837449	6.371770852	-7.768385844	0.00056556	-65.8775329	-33.11921608	-65.8775329	-33.11921608
X Variable 1	0.025075848	0.003168457	7.914213596	0.000518446	0.016931069	0.033220627	0.016931069	0.033220627

Appendix C – Proportion of Clerical Restatements Regression

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.961085201
R Square	0.923684763
Adjusted R Squa	0.908421715
Standard Error	0.016231921
Observations	7

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.01594492	0.01594492	60.51771551	0.000561858
Residual	5	0.001317376	0.000263475		
Total	6	0.017262297			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	48.04936646	6.168835447	7.789049792	0.000558584	32.19187011	63.90686281	32.19187011	63.90686281
X Variable 1	-0.023863391	0.003067545	-7.779313306	0.000561858	-0.031748766	-0.015978017	-0.031748766	-0.015978017

Appendix D – Proportion of Fraud Restatements Regression

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.615150813
R Square	0.378410523
Adjusted R Squa	0.309345025
Standard Error	0.007913144
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.000343084	0.000343084	5.479009587	0.043967789
Residual	9	0.000563561	6.26179E-05		
Total	10	0.000906644			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.561823789	1.515769657	2.349845026	0.043316079	0.132914603	6.990732976	0.132914603	6.990732976
X Variable 1	-0.001766053	0.000754489	-2.340728431	0.043967789	-0.003472825	-5.92811E-05	-0.003472825	-5.92811E-05

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